

REMARKS

Claims 1-21 and 25 have been cancelled. Claims 22, 23, 26 and 30 have been amended.

Applicants hereby confirm their election of the claims defined by Group II (claims 22-30), and thus claims 1-21 have been cancelled. The other claim amendments are discussed below. No new matter has been added.

Drawings and Specification

The drawings have been objected to for failing to specify certain numbers. The drawings have amended, informally, herein. Applicants have been unable to locate an amendable electronic version of the figures at this time, and will resubmit formal drawings once the Examiner accepts the proposed changes. Specifically, the reference number 318 was added to Figs. 5A-5D in accord with the description in paragraph [0030] of the specification. Reference number 624 has been added to Fig. 8C in accord with the description in paragraph [0037].

With regard to reference number 618, this element is described in the specification in the last sentence of paragraph [0036]. Applicants respectfully request that the objection to this reference number be withdrawn.

With regard to reference number 464, the second use of this number to refer to the second layer as shown in Fig 6d has been changed to reference number 465 (a reference number not previously used). The corresponding reference in paragraph [0034] of the specification has also been amended. There has been no new matter added as the second layer is sufficiently described in words such that the invention can be understood by one of skill in the art.

Paragraph [0030] of the specification has been amended to fix a typographical error noted by the Examiner. Specifically, reference number 214 has been fixed to be 314, in accord with Fig. 5.

Claim 30 Errors

Claim 30 has been amended to fix a couple of typographical errors. Specifically, the term “flexural” has been added into line 2 to provide an antecedent basis for the term later in the claim. Also, the second occurrence of the word “for” in line 6 has been deleted. Applicants request withdrawal of the objection and rejection of claim 30 on these substantive bases.

Rejection Under 35 U.S.C. §102(b)

Claim 30 stands rejected as allegedly anticipated under 35 U.S.C. §102(b) by US Patent 6,269,686 to Hahn et al. Applicants traverse this rejection. Specifically, Hahn et al. fail to disclose the last element of claim 30 because the resonator 15 of Hahn rests on top of substrate 10, as discussed in col. 2, lines 43-44. As such there is no “housing comprising at least one wall” as recited in claim 30. The current claim requires the wall because it helps to protect the resonator from damage in harsh environments. Applicants request that this rejection be withdrawn for this reason.

Of note also is the inherency argument set forth in this rejection. Applicants do not agree that a path of electrical conductivity inherently exists between the piezoelectrics of Hahn and the resonator, as alleged in the Office action (on page 5). Actually, there is a mechanical path, which Hahn et al. specifically disclose at column 2, lines 60-63 (“measured by mechanical stress”). Thus, while the piezoelectric is excited electrically, the resonator of Hahn is not actually electrically connected to the piezoelectrics used in Hahn. For this reason also, Applicants request that the novelty rejection be withdrawn.

Rejections Under 35 U.S.C. §103(a)

Claims 22-30 stand rejected as allegedly obvious under 35 U.S.C. §103(a) over US Patent 6,269,686 to Hahn et al. in view of US Patent 5,243,756 to Hamburgen et al. and for certain claims further in view of US Patent 6,494,079 to Matsiev et al. and US Patent 5,918,354 to Ikegami et al. Applicants respectfully traverse these rejections.

It is well settled in the law that no suggestion or motivation can be established for proposed modifications to a prior art embodiment, where such modifications would

render the prior art embodiment unsuitable or unsatisfactory for its intended purpose. See MPEP 2143.02; In re Gordon, 221 USPQ 1125 (Fed. Cir. 1984). Applicants assert that the combination of Hahn et al. in view of any of the other references does not render the claims obvious because the alleged combination would be unsuitable for its intended purpose. Specifically, coating a tuning fork resonator changes the mass of the resonator, which Hahn et al. do not recognize or disclose and thus simply coating the resonator or Hahn et al. would render it unsuitable for the intended sensing, unless hindsight is used and the invention as claimed is invented. Moreover, sufficient spacing is not taught or suggested by the prior art relied upon in the Office action. Although the Examiner relies on Figure 1 of Hahn, the figure is not sufficient to address the issue of mass changes caused by coatings to be disclosed. Applicants request that the obviousness rejections be withdrawn.

CONCLUSION

The applicant submits that all claims are now in condition for allowance. Please charge the fee of \$1,020.00 for a three month extension of time to Deposit Account 50-0496. Should any other charges be due, the Commissioner is authorized to charge the above-referenced deposit account.

Respectfully submitted,

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